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10/051,773	01/17/2002	Richard Oliveri	10015153-1	1525

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EXAMINER

BANANKHAH, MAJID A

ART UNIT	PAPER NUMBER
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2195

DATE MAILED: 08/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/051,773

Applicant(s)

OLIVERI, RICHARD

Examiner

Majid A. Banankhah

Art Unit

2195

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **Response to Amendment**

This office action is in response to Applicant's amendment and response filed on July 5, 2005. Applicant's amendment and supporting arguments have been considered, but are deemed to be moot in view of the new ground of rejection. Claims 1-25 are presented for examination.

### ***Claim Rejections - 35 USC § 102***

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 9-16, 18-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Draves (et al. (U.S. Pat. No. 6,349,355, hereinafter Draves).

#### **As per independent claim 9:**

A system of communicating between a kernel address space of a computer system and an application in a user address space of the computer [the system of Draves, see 4: 60 to 5:23] system, the system comprising:  
a data structure in the kernel address space maintained by the kernel for storing data, the data structure being virtually addressed to the user address space for access by the application [1: 61 to 2:6, and 7: 15-31, and 8:29-42, and Fig.9];

one or more parameters associated to the data structure that represent one or more predetermined communications whereby

the kernel and the application communicate by changing the one or more parameters to reduce communications between the application and the kernel by system calls [8:50 to 9:10].

**As per independent claim 16:**

This claim is rejected for the same reasons detailed above in the rejection of independent claim 9, and also for the following additional reasons:

A method of transferring data between an operating system and a user application executing on a computer system, the method comprising the steps of:  
defining a data structure in an operating system address space of the computer system for storing data, the data structure being mapped to one or more addresses controlled by the operating system [1: 61 to 2:6, and 7: 15-31, and 8:29-42, and Fig.9];

virtually mapping the data structure to a user address space of the computer system controlled by the user application providing the user application with at least read access to the data structure [3:6-12, 4:60 to 5:13, and Fig. 9, and 13];

storing data, by the operating system, in the data structure; and reading the data, by the user application, from the data structure through the virtual mapping [7: 1-31].

**As per independent claim 24:**

This claim is rejected for the same reasons detailed above in the rejection of preceding independent claims, and also for the following additional reasons:

A computer readable product stored on a computer readable medium comprising:

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one or more computer readable instructions that cause a computer to define a data structure within a kernel address space for storing data [1:61 to 2:6, 7: 15-31, and 8:29-42, and Fig.9];

one or more computer readable instructions that cause a the computer to virtually map the data structure to an application in a user address space allowing the application to directly read the data from the data structure in the kernel address space [3:6-12, 4:60 to 5:13, 7: 1-31, and Fig. 9, and 13].

**As per dependent claim 10:**

The header information is taught by Draves in Fig. 8.

**As per dependent claim 11:**

Read parameter is being changed by the kernel indicating to the application that the application may read the data stored in the data structure is taught by Draves [9:11-19]

**As per dependent claim 12:**

Draves teaches of data structure being data buffer [Fig. 9, 10, 12, and 8:30-43]

**As per dependent claim 13:**

Parameters include one or more values to control handshaking [7:55 to 8:18].

**As per dependent claim 14:**

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Draves teaches of memory buffer, memory location, data registers and combination [7:32-41, 9: 28-45].

**As per dependent claim 15:**

Parameters are virtually mapped to application allowing direct access [7:32-54].

**As per dependent claim 18-19:**

Passing instruction between the operating system and user application without system call [see fig. 9, the communication between virtual pages in the system virtual address space and virtual pages in the user shared]. As to claim 19, the parameters are within data structure [8:30-43].

**As per dependent claim 20:**

Setting a read flag in the data structure that instructs the user application to read the data from the data structure [7:42-54, 13:20-33].

**As per dependent claim 21:**

Parameters include one or more values to control handshaking [7:55 to 8:18].

**As per dependent claim 22:**

Draves teaches of overflow data structure when the data structure is full [9:45-65].

**As per dependent claim 23:**

The system of Draves teaches of mapping the data structure to one or more address controlled by the operating system by virtual addressing, physical memory addressing or combination of both [Fig. 9-12].

**As per dependent claim 25:**

Draves teaches of one or more computer readable instructions that causes the computer to define one or more control parameters associated to the data structure where the communication handshaking is established between the kernel address space and the user address space by setting predetermined values for one or more control parameters [4:60 to 5:23, and 7:16-41].

***Claim Rejections - 35 USC § 103***

Claims 1-8, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art in view of Draves et al. (U.S. Pat. No. 6,349,355, hereinafter Draves).

**As per independent claim 1:**

Background of the invention disclose a data structure in an operating system address space of a computer system and maintained by the operating system for storing at least performance data of instructions collected by the operating system, and allowing the monitoring application to read performance data from the data structure [page 3, 0005-0007]. However, background of the invention does not teach of the virtual memory mapping in the operating system address space that maps data structure to the monitoring application to read the performance data from the data structure without transferring the performance data to user address space using a system interrupt.

However, the system of Draves teaches of sharing executable modules between user thread and kernel threads, wherein he uses a virtual mapping for communication between kernel address space and user address space [4:66 to 5:5], for the reason to allow executable components or "a data structure" be shared between user-mode instructions and kernel mode instructions without transferring data and as a result reduce overhead associated with transferring data and increase efficiency [3:46-52, see also Fig.9, 52a and 52b, user virtual address space and system virtual address space, between user shared and kernel shared]. Therefore, it would have been obvious to a person ordinary skill in the art at the time the invention was made to use virtual addressing between kernel address space and user address space of Draves in order to reduce overhead

**As per dependent claims 2:**

Communication parameters maintained in the data structure, which is set to pass information between the operating system, and monitoring application without system call [see fig. 9, the communication between virtual pages in the system virtual address space and virtual pages in the user shared].

**As per dependent claim 3-5:**

The handshaking between monitoring device, monitoring application reading from performance data, and one or more bits and registers are taught by Draves [7:55 to 8:18]

**As per dependent claim 6:**



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Draves teaches of memory buffer, memory location, data registers and combination [7:32-41, 9: 28-45].

**As per dependent claim 7:**

Background of the invention teaches of a plurality of data structures [page 3: 0007].

**As per dependent claims 8 & 17:**

Loading performance data into the data structure by the performance monitoring unit is taught by background of the invention [page 3: 0006, and 0007].

**Prior Art not relied upon**

Please refer to the references listed on the attached PTO-892, which is not relied upon in the claim rejections detailed above.

**How to Contact the Examiner:**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Majid Banankhah, whose telephone number is 571-272-3770. A voice mail service is also available at this number. The Examiner can normally be reached on Monday, and Wednesday - Friday, 7:00 AM - 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, An Meng-Ai who can be reached on 571-272-3770. The fax phone number for the

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organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**All responses sent by U.S. Mail should be mailed to:**

Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

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PTO CENTRAL FAX NUMBER:  
703-872-9306

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- Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist:  
**(703) 305-3900.**

MAJID BANANKHAH  
PRIMARY EXAMINER  
